LISTING OF CLAIMS:

Claims 1-14. (Withdrawn)

Claim 15. (Previously Presented) A sol, comprising:
P moles of a hydroxy metallate;
W moles of water;
a sufficient amount of a dispersant to cause macropores in a gel formed by said sol; and
a biological material,
wherein a ratio of W:P is greater than 25:1.

Claim 16. (Original) The sol according to claim 15, wherein said dispersant comprises a water-soluble polymer.

Claim 17. (Previously Presented) The sol according to claim 15, wherein:
said hydroxy metallate is formed by hydrolysis of a sol-gel precursor.

Claim 18. (Previously Presented) The sol according to claim 17, wherein said sol-gel precursor comprises an alkoxy metallate.

Claim 19. (Original) The sol according to claim 15, wherein said alkoxy metallate comprises an alkoxy silicate.

Claim 20. (Original) The sol according to claim 15, further comprising a means for functionalizing a gel formed by condensation of said hydrolyzed species.

Claim 21. (Original) The sol according to claim 15, wherein said biological material comprises a cell.

Claim 22. (Previously Presented) The sol according to claim 21, further comprising nutrients configured to support said biological cell.

Claim 23. (Original) The sol according to claim 15, wherein said sol comprises a sol solution, said W moles of water forming at least 71 mole % of said sol solution.

Claim 24. (Previously Presented) The sol according to claim 17, further comprising an organic solvent comprising an organic by-product arising from the hydrolysis of said sol-gel precursor.

Claim 25. (Previously Presented) The sol according to claim 15, wherein a ratio of W:P is greater than 100:1.

Claim 26. (Previously Presented) A method, comprising:

mixing a vegetative cell into a sol;

mixing a sufficient amount of a dispersant into said sol to cause macropores in a gel formed by said sol; and

gelling said sol to form said gel.

Claim 27. (Withdrawn)

Claim 28. (Previously Presented) A gel, comprising:

a macroporous solid network formed by the condensation of hydroxy metallates from a sol solution; and

a bacterial cell added to the sol solution and thereby immobilized within said solid network,

wherein said sol solution is compatible with said bacterial cell.

Claim 29. (Previously Presented) A gel, comprising:

a solid network formed by the condensation of hydroxy metallates from a sol solution, the solid network defining macropores; and

a vegetative cell added to the sol solution and thereby immobilized within said solid network.

Claim 30. (Canceled)

Claim 31. (Currently Amended) The gel of claim ~~30~~ 29, wherein said solid network transmits less than about 35% of a 700 nm light beam over a pathlength of about 0.9 cm when said macropores are filled with air.

Claim 32. (Previously Presented) The gel of claim 31, wherein said solid network transmits less than about 30% of said light beam when said macropores are filled with air.

Claim 33. (Previously Presented) The gel of claim 32, wherein said solid network transmits less than about 18% of said light beam when said macropores are filled with air.

Claim 34. (Previously Presented) The gel of claim 33, wherein said solid network transmits less than about 9% of said light beam when said macropores are filled with air.

Claim 35. (Previously Presented) The gel of claim 33, wherein said solid network is opaque to said light beam when said macropores are filled with air.

Claim 36. (Previously Presented) The gel of claim 29, wherein said vegetative cell is entrapped within said solid network.

Claim 37. (New) The sol according to claim 21, wherein said cell comprises a bacterial cell.

Claim 38. (New) The sol according to claim 21, wherein said cell comprises a vegetative cell.

Claim 39. (New) The method of claim 26, wherein mixing the vegetative cell into the sol comprises mixing the vegetative cell into the sol including P moles of a hydroxy metallate and W moles of water, wherein a ratio of W:P is greater than 25:1.